

U.S. Patent Application No. 09/825,582
Amendment dated October 3, 2003
Reply to Office Action of June 4, 2003

REMARKS/ARGUMENTS

Reconsideration and continued examination of the above-identified application are respectfully requested.

The amendment to the claims is editorial in nature and/or further defines what the applicant regards as the invention. Full support for the amendment can be found throughout the present application and the claims as originally filed, for instance, in claims 1 and 3-6. The non-elected claims have been withdrawn. The applicant reserves the right to pursue the non-elected claims in one or more divisional applications. Accordingly, no questions of new matter should arise and entry of the amendment is respectfully requested.

Claims 1-3 and 5-29 are pending in the application. Claims 30-34 have been withdrawn as a result of a restriction requirement. Claims 4 and 35 have been cancelled by way of this amendment.

At page 2 of the Office Action, the Examiner sets forth the reasons for the Restriction Requirement, which separated the pending claims into four groups. According to the Examiner, claims 1-29 and 35 (Group I) are drawn to a method of making a carbon foam, claims 30, 31, and 34 (Group II) are drawn to an electrode, claim 32 (Group III) is drawn to an elastomer compound, and claim 33 (Group IV) is drawn to a fuel cell. Furthermore, the Examiner sets forth reasons for the election of species requirement.

On May 23, 2003, the applicant elected with traverse to prosecute the invention of Group I. The applicant believes that the remaining claims, namely claims 30-34, should be examined at this time given that it appears that no serious burden on the Examiner would exist to also examine claims 30-34 of the present application. Accordingly, the Examiner is respectfully requested to include claims 30-34 as part of the examination and is further respectfully requested to remove the restriction requirement.

U.S. Patent Application No. 09/825,582
Amendment dated October 3, 2003
Reply to Office Action of June 4, 2003

With respect to the species requirement, the Examiner asserts that as to the pyrolizable material, coal was elected and with respect to the fuel source, natural gas was elected. If the elected species is found allowable by the Examiner, the Examiner should continue to examine other non-elected species.

At pages 4 and 5 of the Office Action, the Examiner rejects claims 1, 3, 4, 7, 9, 21, and 35 under 35 U.S.C. §102(b) as being anticipated by Reznick et al. (U.S. Patent No. 6,500,401).

With respect to claim 1, the Examiner asserts that Reznick et al. describes a method of making carbon foam comprising pyrolyzing a mixture of at least one pyrolyzable material. The Examiner suggests that it is not possible to achieve a completely oxygen-free atmosphere, thus, an oxidizing source is inherently present. Therefore, the Examiner concludes that some oxygen is present in any pyrolysis system, thus oxidation occurs.

With respect to claims 3, 4, 7, 9, 21, and 35, the Examiner asserts that Reznick et al. and the claims of the present application both describe that the pyrolyzing substance is preferably an organic substance such as an organic compound, examples of which include carbohydrates, coal, and hydrocarbons. According to the Examiner, Reznick et al. states that a preferred pyrolyzable substance is sugar, cellulose compounds, coal, and the like. For the following reasons, this rejection is respectfully traversed.

Reznick et al. issued on December 31, 2002, and was published on March 7, 2002. Reznick et al. was filed on March 13, 2001 and is based on U.S. Provisional Patent Application No. 60/220,464, which was filed on July 20, 2000. The claimed invention has a filing date of April 3, 2001. Furthermore, the Examiner's assumptions made regarding an oxidizing source simply are not supported in the cited art. It is speculation by the Examiner. Therefore, Reznick et al. is not prior art under 35 U.S.C. §102(b). Accordingly, this rejection should be withdrawn.

U.S. Patent Application No. 09/825,582
Amendment dated October 3, 2003
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At page 5 of the Office Action, the Examiner rejects claims 1-4, 7-14, 17-29, and 35 under 35 U.S.C. §102(b) as being anticipated by Ullmann's Encyclopedia of Industrial Chemistry (hereinafter, Ullmann).

The Examiner states that claims 1 and 10 of the present application recite, in part, a method of making carbon foam comprising pyrolyzing a mixture in the presence of at least one oxidizing source. The Examiner asserts that carbon foam and activated carbon are equivalent and then asserts that Ullmann, at page 126, column 2 describes the formation of carbon foam (activated carbon), wherein the oxidizing source is disclosed as oxygen. With respect to claims 2-4 and 35 of the present application, the Examiner asserts that Ullmann also describes coal as the fuel source. With respect to claims 7-9 of the present application, the Examiner asserts that Ullmann, at page 128, section 4.2.3 describes that the fuel source is natural gas.

The Examiner also states that Ullmann, at page 127, section 4.2.1 describes the limitation of claims 18 and 19 of the present application. The Examiner also cites different parts of Ullmann to reject claims 11-14 and 17-29 of the present application. For the following reasons, the rejection over Ullmann is respectfully traversed.

Claim 1 recites a method of making a carbon foam. As the Examiner should be well aware, the preamble of a claim can limit the scope of the claim if the preamble provides additional structural limitations to the claim. The claimed invention relates to a carbon foam; whereas Ullmann relates to activated carbon. An activated carbon clearly differs from a carbon foam. Carbon foam includes cell structures (bubble-like structures) within the carbon. In contrast, an activated carbon does not include the cell structures present in a carbon foam. One skilled in the art by reading the claims of the present application in view of the specification of the present application would know that a carbon foam differs from an activated carbon. Thus, one skilled in

U.S. Patent Application No. 09/825,582
Amendment dated October 3, 2003
Reply to Office Action of June 4, 2003

the art would not look to Ullmann when working with a carbon foam. Ullmann is non-analogous art and accordingly, this rejection should be withdrawn.

At page 10 of the Office Action, the Examiner rejects claims 1, 2, 4, 10, 12, 21-28, and 35 under 35 U.S.C. §102(b) as being anticipated by Mayer et al. (U.S. Patent No. 5,908,896).

According to the Examiner, Mayer et al., in claim 5, describes pyrolyzing a pyrolyzable material in an oxidizing atmosphere. The Examiner also asserts that the limitation of having at least one fuel source, other than the pyrolyzable material, is met when the pyrolyzable material of Mayer et al. is heated between 500-3000°C, and CO along with other volatiles are vaporized. The Examiner further asserts that Mayer et al. describes an "organic" microsphere as the pyrolyzable substance.

The Examiner also cites various sections of Mayer et al. to reject claims 10, 12, and 21 of the present application.

With respect to claims 22 and 23 of the present application, the Examiner's assumptions that the method of the claimed invention is identical to the method described in Mayer et al.; therefore, the Examiner concludes that Mayer et al. and the claimed invention will inherently form the same product.

The Examiner also makes other assumptions to reject claims 24-28 and 35 of the present application. For the following reasons, this rejection is respectfully traversed.

Mayer et al. relates to organic aerogel microspheres which can be used in capacitors, batteries, thermal insulation, adsorption/filtration media, and chromatographic packings. According to Mayer et al., the microspheres can be pyrolyzed to form carbon aerogel microspheres. Mayer et al. does not teach or suggest any source of fuel. Further, Mayer et al. does not teach or suggest a pyrolyzable material that includes coal, carbohydrate, sugar, cellulose, or combinations thereof.

U.S. Patent Application No. 09/825,582
Amendment dated October 3, 2003
Reply to Office Action of June 4, 2003

Therefore, Mayer et al. does not teach or suggest the claimed invention. Furthermore, the Examiner's inherency argument is not supported in Mayer et al. Accordingly, this rejection should be withdrawn.

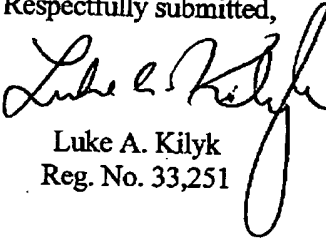
U.S. Patent Application No. 09/825,582
Amendment dated October 3, 2003
Reply to Office Action of June 4, 2003

CONCLUSION

In view of the foregoing remarks, the applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



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